

WHAT IS CLAIMED IS

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1. A multiplexing apparatus, comprising:  
a time division switch that multiplexes  
data inputted and outputs the multiplexed data to a  
selected circuit, and

10 a memory unit that stores real control  
data for controlling actual connection operations of  
the time division switch, and virtual control data  
for controlling virtual connection operations.

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2. The multiplexing apparatus as claimed  
in claim 1, wherein the memory unit comprises:

20 first control data for controlling  
connection operations of the time division switch  
when multiplexing the data inputted,

25 second control data for controlling  
connection operations of the time division switch  
when outputting the multiplexed data, and

virtual control data for virtually  
connecting the first control data and the second  
control data.

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3. The multiplexing apparatus as claimed  
in claim 1, wherein the memory unit assigns an  
35 address to every terminal unit that provides data  
and every circuit that outputs the multiplexed data,  
and assigns a virtual address for virtually

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connecting the address of the terminal unit and the address of the circuit.

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4. The multiplexing apparatus as claimed in claim 3, wherein the memory unit assigns an address to a virtual transmission path that 10 virtually connects a terminal unit and a circuit when setting up connection operations of the time division switch.

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5. The multiplexing apparatus as claimed in claim 1, wherein the memory unit detects real control data that is virtually connected by using 20 the virtual control data when controlling connection operations of the time division switch.

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6. The multiplexing apparatus as claimed in claim 1, further comprising means for providing the real control data and the virtual control data.

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7. A multiplexing method, comprising:  
a step of setting real control data, the  
35 real control data being for controlling actual  
connection operations of a time division switch that  
multiplexes inputted data and outputs the

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multiplexed data to a selected circuit,

a step of setting virtual control data,  
the virtual control data being for controlling  
virtual connection operations of the time division  
5 switch,

a step of virtually connecting the real  
control data and the virtual control data, and

a step of detecting the real control data  
connected by deleting the virtual control data.

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15 8. A multiplexing method, comprising:  
an address assigning step of assigning  
addresses to each terminal unit that supplies data  
and to each circuit that outputs multiplexed data,

20 a virtual address assigning step of  
assigning a virtual address that virtually connects  
the address of the terminal unit and the address of  
the circuit,

25 a virtual connection step of virtually  
connecting the address of the terminal unit and the  
address of the circuit using the virtual address,  
and

30 an address detecting step of detecting the  
address of the terminal unit and the address of the  
circuit, both having been connected, by deleting the  
virtual address.

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35 9. A network, comprising a multiplexing  
apparatus which includes:

a time division switch that multiplexes  
data inputted and outputs the multiplexed data to a

selected circuit, and

a memory unit which stores therein real control data for controlling actual connection operations of the time division switch, and virtual  
5 control data for controlling virtual connection operations.

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10. The network as claimed in claim 9, wherein the memory unit comprises:

first control data for controlling connection operations of the time division switch  
15 when multiplexing data inputted,

second control data for controlling connection operations of the time division switch when outputting the multiplexed data, and

virtual control data for virtually  
20 connecting the first control data and the second control data.

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11. The network as claimed in claim 9, wherein the memory unit assigns an address to each terminal unit that provides data and every circuit that outputs the multiplexed data, and assigns an  
30 address to a virtual transmission path that virtually connects the address of the terminal unit and the address of the circuit.

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